INDIANA DEPARTMENT OF TRANSPORTATION
MATERIALS AND TESTS DIVISION

ITM RULES OF PREPARATION
ITM No. 101-01P

1.0 SCOPE

1.1 An ITM is a form of specification. The ITM normally becomes a part of a contract document by being shown as a cross reference in the INDOT Standard Specifications. Contract documents may cross reference to an ITM or an ITM may exist for reasons other than a direct contractual requirement.

An ITM shall be prepared in a standard method as established by this guideline. In general, an ITM shall follow the format of AASHTO's Standard Specifications for Transportation Materials and Methods of Sampling and Testing, Parts I and II. There are a few section headings which are occasionally used within the AASHTO specifications that will be omitted from the standard major headings for ITMs. However, these AASHTO section headings may be used by inserting at an appropriate location within the standard major headings for ITMs. Bolding, underlining, or italicizing as performed in the AASHTO specifications shall not be done, unless unusual circumstances determine a need for such emphasis.

A revision date will be maintained showing the actual date a version of the ITM was updated, or initially created, on the upper right hand corner of the first page. The change in the revision date may or may not mean a substantive change has occurred to the ITM.

1.2 An orderly numbering system is being maintained for ITMs. A three digit number will be assigned to ITM, which is then followed by a hyphen and the last two digits of the calendar year. The calendar year identifies when the ITM was adopted or substantially revised.

An ITM will be designated as a test method by attaching a T to the ITM number or as a procedure by attaching a P to the ITM number. A test method will become effective immediately upon approval by the ITM Committee. A procedure will be come effective on the next September 1, unless approved otherwise by the ITM Committee.

The Material Services Engineer will assign the ITM number and all revision dates. The first three digits of the ITM will be assigned as follows.

TEST METHOD PERTAINING TO	SERIES OF NUMBERS ASSIGNED
Cement, except chemical analysis	101 to 199
Aggregate	201 to 299
Metallic Materials, except chemical analysis	301 to 399
Concrete	401 to 499
Soils	501 to 569
Bituminous Mixtures	571 to 599
Chemical Analysis, including metals, paints, epoxies, etc.	601 to 699
Bituminous Materials	701 to 799
Miscellaneous	801 to 899
Calibrations	901 to 925
Traffic	926 to 950

2.0 FORMAT AND MAJOR HEADINGS

2.1 Each ITM shall adopt the standard appearance as presented in Appendix A. A template is available in computer software which establishes the basics for the ITM document. The writer shall address each of the major headings or shall be prepared to explain why the heading was omitted. Other unique headings may be appropriate and shall be added as needed by the writer. The major headings are as follow:

2.1.1 SCOPE.
2.1.2 REFERENCES.
2.1.3 TERMINOLOGY.
2.1.4 SIGNIFICANCE AND USE.
2.1.5 APPARATUS.
2.1.6 SAMPLING.
2.1.7 PREPARATION OF TEST SPECIMEN.
2.1.8 PROCEDURE.
2.1.9 CALCULATIONS.
2.1.10 REPORT.
2.1.11 PRECISION.

When new headings are presented, each shall be inserted in proper sequence to the rest of ITM content. The template has text shown in normal type that is standard under the heading and shall be followed. Alternate ordering and guideline instructions are shown in italicized type. Appendix A and the computer software are fairly self explanatory.

3.0 CONVENTIONS FOR WORDS AND PHRASEOLOGY

3.1 GENERAL. Certain words and phrases have been adopted in the Standard Specifications, Supplemental Specifications, and recurring provisions by the Standards Committee. The ITM Committee will adopt those conventions as much as possible, except where the ITM Committee determines a variation is preferred.

3.2 REFERENCES. Cross references to other publications may be made, but in the following concise manner.

INSTEAD OF	PREFERRED
…in accordance with section 105.05 of the Indiana Department of Transportation Standard Specifications dated 1995…	…in accordance with 105.05…
…in accordance with ASTM A123…	…in accordance with ASTM A 123…
If an entire referenced specification does not apply, use the following phrase.	in accordance with the applicable requirements of

Test methods from national level agencies, such as AASHTO Specifications are acceptable. Test methods from other states are not acceptable and will be changed to an ITM.

3.3 TERMS AND ABBREVIATIONS. ITMs will use the definitions contained in the Standard Specifications, Section 101 for key terms and abbreviations. Each ITM will contain an opening statement under Terminology - Definitions and Abbreviations which makes this cross reference. Definition of terms will not be repeated in the ITM for terms already contained in the Standard Specifications. Nor will abbreviations be repeated or initially identified by spelling out the entire term, then showing the abbreviation.

INSTEAD OF	PREFERRED
…the Indiana Department of Transportation (INDOT)… …INDOT…	…the Department…
…an approved AASHTO Materials Reference Laboratory…	…an approved AMRL…

SI metric is an international convention and metric symbols do not need to be defined as long as correct use is maintained. Most symbols common to transportation work are shown in a table toward the front of the Standard Specifications.

Definitions will be used to define uncommon and, often, exclusive industry related terms. Definitions will also be used to define a term common to everyday language, but having an uncommon, industry related definition.

3.4 COMMON WORDS AND PHRASES. ITM writers are required to use the following preferred words and phrases over those occasionally selected.

INSTEAD OF	PREFERRED
any any and all	all
as shown in the plans as detailed on the plans as shown on the detail sheets as shown on the standard drawings as shown on sheet __ of the plans	as shown on the plans
Indiana Department of Transportation INDOT	Department
District Materials and Tests Engineer	DMTE
each and every	each
insure assure	ensure
guard rail	guardrail
in conformance with	in accordance with
and/or	Or
bid item item line item	pay item
project limits	contract limits
shall conform to	shall be in accordance with
utilize	use

Always remember that the Contractor shall and the Engineer will. Most specification statements may be written with just the word shall or will without using the word Contractor or Engineer. If a statement is unclear as to who shall or will without using the word Contractor or Engineer, then use the appropriate term. Subcontractors, suppliers, fabricators, manufacturers, and others hired by the Contractor also shall. The Department, the State, the project engineer, the DMTE, the testing technician and others who observe and enforce contract requirements also will.

INSTEAD OF	PREFERRED
The Contractor shall place the concrete…	The concrete shall be placed…

The Engineer will measure the depth…	The depth will be measured…
…placed as directed by the Engineer.	…placed as directed.

Use shall or will instead of is to, must, should or similar verbs.

INSTEAD OF	PREFERRED
This work is to be done… This work must be done… This work should be done…	This work shall be done…

3.5 NUMERALS. Use numerals instead of written out names for all numbers that are shown with units of measure. Use numerals in fractions and decimals. Write out all names for numerals between one and nine, inclusive, that are not shown with units of measure. Use numerals instead of written out names for all numbers 10 and above that are not shown with units of measure. Do not begin a sentence with a number.

INSTEAD OF	PREFERRED
There shall be 1 sign…	There shall be one sign…
There shall be five liters…	There shall be 5 L…
There shall be three and one half turns…	There shall be 3 1/2 turns…
…shall submit 5 sets of samples…	…shall submit five sets of samples…
…shall be ten wire per conduit…	… shall be 10 wires per conduit…
14 tests will be performed… Fourteen tests will be performed	will require 14 tests

Do not spell out numbers, then follow up with a parenthetical number. Only one form is necessary.

INSTEAD OF	PREFERRED
…shall be placed two (2) feet (one half (1/2) m) from…	…shall be placed 2 ft.…

3.6 UNITS OF MEASURE. Write out units of measure within sentences when not accompanied by a quantity. Units of measure may be shown as a symbol when used in tabular form or when accompanied by a quantity. Metric equivalents shall appear immediately following English measures and shown in parentheses. The acknowledged and common abbreviation shall be used as the English equivalent. The English unit, therefore, need not be written out.

INSTEAD OF	PREFERRED
… shall be placed 5 feet (1.5 meters) from…	… shall be placed 5 ft (1.5 m) from…

… shall be placed 1/4 inch (6 mm) from… …shall be placed 1/4" (6 mm) from…	…shall be placed 1/4 in. (6 mm) from…
…will be measured by the ft (m)…	will be measured by the linear foot (meter)

3.7 EMPHASIS. Individual words, phrases, sentences, or even paragraphs in Test Methods need not be emphasized. Typically, emphasis has been shown by way of capitals, underlining, boldface and quotation marks. Ordinary type is enforceable without emphasis.

INSTEAD OF	PREFERRED
THIS WORK SHALL NOT CONTINUE AFTER DECEMBER 1. This work shall not continue after December 1. This work shall not continue after December **1.** This "work" shall not continue after "December 1".	This work shall not continue after December 1.

3.8 PARENTHESES. Nearly all parentheses may be eliminated without loss of sentence clarity. The only permitted parenthetical phrases are metric equivalents which follow English measurement units. Otherwise, parentheses have a tendency to hide or de-emphasize other genuinely important statements.

INSTEAD OF	PREFERRED
The painting shall include an undercoat [min. 2.5 mils (64 μm)] of vinyl.	The painting shall include a vinyl undercoat having a thickness of 2.5 mils (64 μm).
The finish coat (vinyl) shall be… place	The vinyl finish coat shall be placed…
…for each intersection by type (i.e. traffic signal or flasher).	for each intersection by type, such as traffic signal or flasher

3.9 CAPITALIZATION. The phrases which require full capitalization are ITM titles and subsection headings. The words which require an initial capital letter without regard to their location in the sentence are Department, Engineer, Contractor, titles of individuals, titles of reference publications, abbreviations in 101.01, or other proper nouns if their use is required. Capitalization shall not be used to emphasize certain words or phrases.

4.0 PROCEDURE FOR CREATING OR CHANGING AN ITM

4.1 CREATING AN ITM PROCEDURE. The following steps will be followed to initiate, develop, and implement a new ITM.

4.1.1 A person identifies a need for a new ITM.

4.1.2 The person contacts the Material Services Engineer, who establishes a number for the ITM and activates the preset word processing software for preparing the draft version of the ITM.

4.1.3 The person prepares a draft of the new ITM on the word processing software.

4.1.4 The person discusses proposed ITM with affected parties and either incorporates a comment into the draft or makes note of the comment for later discussion.

4.1.5 The person provides the Material Services Engineer with an electronic version of the draft ITM, and the Material Services Engineer reviews the draft for general content and adherence to preparation standards.

4.1.6 The Material Services Engineer will add the draft ITM as an agenda item on the next available meeting.

4.1.7 The Material Services Engineer publishes the agenda with the proposed ITM.

4.1.8 The ITM Committee discusses the merits of the ITM and, if acceptable, the Chairman designates a Champion.

4.1.9 The Material Services Engineer notes the changes to the draft ITM during discussions, and the Committee votes on the ITM.

4.1.10 The Material Services Engineer will include the ITM in the meeting minutes.

4.1.11 The Material Services Engineer distributes the meeting minutes.

4.1.12 Members address editorial changes to the ITM version contained in the minutes to the within 2 weeks.

4.1.13 The Material Services Engineer makes the appropriate changes to the meeting minutes.

4.1.14 Minutes are forwarded to the Chief Engineer for review and approval.

4.1.15 The approved ITM is published and distributed by the Material Services Engineer.

4.1.16 The Champion prepares a checklist for all other system changes and prepares proposed changes to the effected systems.

4.1.17 The completed checklist and proposed changes are submitted to the Material Services Engineer.

4.2 CHANGING AN EXISTING ITM PROCEDURE. The following steps will be followed to develop and implement changes to an existing ITM.

4.2.1 A person identifies a need for a change to an existing ITM.

4.2.2 The person notifies the Champion and the Materials Services Engineer in writing and the Champion researches the proposed changes.

4.2.3 The Champion contacts the Material Services Engineer, who has a copy of the existing ITM activated in the word processing software for preparing the draft version of the proposed changes to the ITM.

4.2.4 The Champion prepares a draft of the revised ITM on the word processing software.

4.2.5 The Champion discusses the revised ITM with affected parties and either incorporates a comment into draft or makes note of the comment for later discussion.

4.2.6 The Champion provides the Material Services Engineer with an electronic version of the draft ITM, and the Material Services Engineer reviews the draft for general content and adherence to preparation standards.

4.2.7 The Material Services Engineer will add the draft ITM as an agenda item on the next available meeting.

4.2.8 The Material Services Engineer publishes the agenda with the revised ITM.

4.2.9 The Material Services Engineer notes the changes to the draft ITM during discussions, and the Committee votes on the ITM.

4.2.10 The Material Services Engineer will include the ITM in the meeting minutes.

4.2.11 The Material Services Engineer distributes the meeting minutes.

4.2.12 Members address editorial changes to the ITM version contained in the minutes to the Material Services Engineer within 2 weeks.

4.2.13 The Material Services Engineer makes appropriate changes to the meeting minutes.

4.2.14 The minutes are forwarded to the Chief Engineer for review and approval.

4.2.15 The approved ITM is published and distributed by the Material Services Engineer.

4.2.16 The Champion prepares a checklist for all other system changes and prepares proposed changes to the effected systems.

4.2.17 The completed checklist and proposed changes are submitted to the Material Services Engineer.

APPENDIX A Revised MM/DD/YY

INDIANA DEPARTMENT OF TRANSPORTATION
MATERIALS AND TESTS DIVISION

TITLE FOR TEST METHOD OR PROCEDURE
ITM No. *000-YYT or P*

1.0 SCOPE.

1.1 This test method *(procedure)* covers the ...*{The scope shall contain a concise statement about the purpose of the ITM.}*

1.2 The values stated in either English or acceptable SI metric units are to be regarded separately as standard, as appropriate for a specification with which this ITM is used. Within the text, SI metric units are shown in parenthesis. The values stated in each system may not be exact equivalents; therefore each system shall be used independently of the other, without combining values in any way. *{This statement is required if the ITM is to contain both English and metric units. The English unit shall be shown first and the metric unit shall appear within parenthesis.}*

1.3 This ITM may involve hazardous materials, operations, and equipment. This ITM does not purport to address all of the safety problems associated with the ITMs use. The ITM user's responsibility is to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2.0 REFERENCES.

2.1 AASHTO Standards.

M ## Material Name
M ### Material Name
T ## Test Name
T ### Test Name

2.2 ASTM Standards.

A ## Standard Name
B ### Standard Name

2.3 ITM Standards.

Method (Procedure) Name

2.4 *OTHERS.*

3.0 TERMINOLOGY.

3.1 Terms and Abbreviations. Definitions for terms and abbreviations shall be in accordance with the Department's Standard Specifications, Section 101 *(, except as follows.)*

3.1.1 Term, symbol. The...*{concise definition of the term}*

a) Discussion. The term...*{explanation of the term}*

3.2 Descriptions of Terms..

3.2.1 Term, symbol. The...*{concise description of a term}*

a) Discussion. The term...*{explanation of the term}*

4.0 SIGNIFICANCE AND USE.

4.1 This ITM is often used to...*discuss the circumstances that the ITM will be used in normal practice and how the results will be used}*

5.0 APPARATUS.

5.1 ***Apparatus Name.*** The *apparatus name* shall conform to the requirements of AASHTO *(ASTM or ITM)* M*(T) ###* for the... *{complete with appropriate statement, including parameters under which the apparatus is required to perform}*

5.2 ***Apparatus Name.*** A...*{complete with appropriate statement}*

5.2.1 Calibration. Calibrate the *(apparatus name)* by...

6.0 SAMPLING.

6.1 Sampling shall be accomplished in accordance with...*{complete with appropriate reference}*

7.0 PREPARATION OF TEST SPECIMEN.

7.1 Obtain approximately *(measurement unit)* of the sample using ...*{complete with appropriate statement)*

8.0 PROCEDURE.

8.1 (*Describe each step of the procedure in detail as the work occurs in the sequence of the test method. Each step of the procedure will describe the performance parameters, such as time and temperature. Procedures will identify the data to be recorded and the level of*

significance required. If different methods are used to arrive at a result, each will be described separately as Method A, Method B, etc.)...

8.1.1 *First statement in a listing...*
8.1.2 *Second statement in a listing...*

9.0 CALCULATIONS.

9.1 Calculate the ...*{Formulas used in calculating the end result from the test will be stated. Each term in the formula will be defined. Each formula will have a separate subparagraph. Several steps or formulas may be required to provide a simple and understandable process.}*

10.0 REPORT.

10.1 Report *(characteristic being measured)* to the nearest *(decimal place)*...

11.0 PRECISION.

11.1 The estimates of precision of this test method *(procedure)* are based on results from the ...*{complete with appropriate statement}*

A.1